



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,974	04/06/2001	Jason Souloglou		7224

36183 7590 06/14/2005

PAUL, HASTINGS, JANOFISKY & WALKER LLP
P.O. BOX 919092
SAN DIEGO, CA 92191-9092

EXAMINER

YIGDALL, MICHAEL J

ART UNIT	PAPER NUMBER
----------	--------------

2192

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

09/827,974

Applicant(s)

SOULOGLOU ET AL.

Examiner

Michael J. Yigdoll

Art Unit

2192

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 13 May 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☒ The Notice of Appeal was filed on 13 May 2005. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☒ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1-26.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.

Continuation of 11.

Claims 1-26 are pending.

In response to Applicant's argument that the double patenting rejections are premature (Applicant's remarks, page 9), it should be noted that the outstanding rejections are provisional precisely because the copending applications have not yet issued as patents. As stated in the previous Office action, "[these are] provisional obviousness-type double patenting rejection[s] because the conflicting claims have not in fact been patented." Accordingly, the double patenting rejections stand.

Regarding claim 13, Applicant contends that Walters fails to teach or suggest generating additional target code corresponding to the subsequent conditions when subsequently entering the same portion of subject code for which target code has already been generated upon initial translation (Applicant's remarks, page 11, last paragraph). However, what the claim recites is "generating additional target code" only "if no such target code has previously been generated." Walters discloses entering a block of non-native code or "program code" and generating native code or "target code" for that block if the native code has not already been generated and stored in a cache (see, for example, column 3, line 54 to column 4, line 3). Importantly, if the native code is already in the cache, then it has already been generated during an "initial translation" of the non-native code. If the native code is not in the cache, then "no such target code has previously been generated," and it is generated during that subsequent entry of the non-native code. The native code generated and stored when the block is thus "subsequently entered" is in addition to or "additional" to any native code that is already in the cache, even if that native code in the cache corresponds to other non-native blocks.

Moreover, claim 13 does not clearly recite generating multiple sets of target code for the same portion of subject code, one set for the prevailing set of conditions upon initial translation and other sets for the different subsequent conditions when the subject code is subsequently encountered and the subsequent conditions are different from the prevailing conditions, as Applicant contends (Applicant's remarks, page 12, second paragraph). As noted above, what the claim recites is "generating additional target code" only "if no such target code has previously been generated." The additional target code is not generated each and every time "whenever subsequently the same portion of program code is entered," but rather is generated only "if no such target code has previously been generated." The plain language of the claim does not suggest that the "subsequent conditions" are necessarily different than the "prevailing set of conditions," much less that the "target code required to execute said portion of program code with said subsequent conditions" is necessarily different than the "target code which is required to execute that portion of program code with a prevailing set of conditions." Likewise, "additional target code" does not necessarily mean "a second set of target code," it could simply mean "more target code." Therefore, multiple sets of target code are not inevitably generated for the same portion of subject code, and even when "additional target code" is generated, it is not necessarily different than the target code generated "on an initial translation." It should be noted that the claims are given the broadest reasonable interpretation and are interpreted based on the plain language of the claims and the plain meaning of the words of the claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant contends that Walters only discloses a single translation of a portion of program code, not multiple translations of the same portion of program code (Applicant's remarks, page 12, third paragraph). However, as noted above, the plain language of the claim does not unequivocally establish that multiple translations are always performed for the same portion of program code. In the sense that a "translation" is construed as a pass or an "encounter," Walters clearly discloses multiple translations because that is how and why Walters employs the cache (Applicant's remarks, page 11, last paragraph). In fact, Walters expressly discloses two different code generation procedures for use with a given non-native instruction that is sometimes an exit instruction and sometimes not an exit instruction (see, for example, column 11, lines 28-34). Therefore, if the "prevailing set of conditions" is such that the instruction is an exit, then the "initial translation" generates and stores native code using the first procedure. If the "subsequent conditions" are such that the same instruction is not an exit, then native code is generated for that instruction using the second procedure. The native code for the "subsequent conditions" is not yet in the cache since the "initial translation" generates native code for the "prevailing set of conditions," and thus "additional target code" is generated "whenever subsequently the same portion of program code is entered."

Regarding claims 1 and 15, Applicant contends that the combination of Davidson and Walters fails to teach or suggest generating different intermediate representations for the same given portion of program code in response to respective previous prevailing and subsequent conditions (Applicant's remarks, page 15, first paragraph). Again, however, as recited in the claims, the "additional intermediate representation" is not necessarily different than the intermediate representation generated and stored "on an initial translation." As noted above, Walters discloses entering a block of non-native code and generating native code for that block if the native code has not already been generated and stored in a cache (see, for example, column 3, line 54 to column 4, line 3). Davidson discloses generating an intermediate representation of program code (see, for example, the abstract). Together, Davidson and Walters teach entering a block of non-native code and generating an intermediate representation for that block if the intermediate representation has not already been generated and stored in a cache. Although Applicant contends that Walters only discloses making a single translation (Applicant's remarks, page 16, first paragraph), as demonstrated above, Walters discloses generating native code for an instruction under a "prevailing set of conditions" (the instruction is an exit instruction), and generating additional native code for the same instruction under "subsequent conditions" (the instruction is not an exit instruction).

Applicant further contends that in Walters and Davidson, there is no teaching or suggestion to determine the subsequent conditions (Applicant's remarks, page 17, first paragraph). However, the claims do not recite determining any of the conditions, but rather "determining whether intermediate representation has previously been generated and stored for that portion of program code for the subsequent conditions." Furthermore, there is no inherent need to determine the subsequent conditions unless the subsequent conditions are necessarily different than the "prevailing set of conditions," which they are not, at least according to the plain language of the claims. Nonetheless, Walters expressly discloses determining the condition codes generated and needed by the non-native instructions (see, for example, column 4, lines 20-28), and generating native code for only those condition codes (see, for example, column 13, lines 25-31).

In terms of the dependent claims, Applicant contends that there is no teaching or suggestion in Davidson of generating and storing special-case intermediate representation of a particular subject code instruction only for the functionality required at that iteration (Applicant's remarks, page 19, first paragraph), and that Davidson fails to teach or suggest expression tuples having a plurality of functions or effects, where only a portion of those functions are generated and stored in a special-case intermediate representation of a particular subject code instruction only for the functionality required at that iteration of the instruction (Applicant's remarks, page 19, last paragraph). However, Walters discloses generating and storing special-case native code for only the functionality required at an iteration of a given non-native instruction, as noted above.

Regarding claims 11, 12 and 16, Applicant's arguments (Applicant's remarks, page 20) are analogous to the arguments addressed above. Furthermore, Walters teaches that a block of program code can have alternative unused entry conditions or effects or functions by disclosing that native code is not generated for the unused condition codes (see, for example, column 13, lines 36-39).

In response to Applicant's argument that there is no suggestion to combine the references (Applicant's remarks, page 21, fourth paragraph), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In response to Applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning (Applicant's remarks, page 23, second paragraph), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

As set forth in the previous Office action, Davidson expressly discloses that the intermediate representation provides language independence (see, for example, column 3, lines 56-65), and further that the intermediate representation is used to perform optimization (see, for example, column 3, lines 36-40). Thus, Davidson teaches that the intermediate representation enables language-independent optimization. Walters, too, discloses optimization (see, for example, column 3, lines 1-9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to supplement Walters with an intermediate representation, such as taught by Davidson, so as to provide language independence. That Walters alone performs optimization does not preclude the desirability of language independence. Indeed, one of ordinary skill in the art would have been motivated to achieve such language-independent optimization in Walters. Applicant has merely concluded that because Davidson discloses a static compiler, one of ordinary skill in the art would not be motivated to add an intermediate representation to the dynamic translator of Walters "because of the prospect that the added complexity and overhead would tremendously slow down the Walters cross-compilation system" (Applicant's remarks, page 22, first paragraph). Notwithstanding the prospect of what Applicant concludes may possibly result from a combination of Walters and Davidson, the references teach that the intermediate representation would in fact enable language-independent optimization. Furthermore, the recognition that claim 14 recites a method of "dynamically translating" comprising the step of "generating an intermediate representation" is not presented as motivation to combine Walters and Davidson. The motivation to combine Walters and Davidson is found in the references themselves, as noted above.

MY



TUAN DAM
SUPERVISORY PATENT EXAMINER